UNAUTHORIZED VIEWER DETECTION SYSTEM AND METHOD

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This is a continuation-in-part of application Ser. No. 13/621,691, filed Sep. 17, 2012, titled "Unauthorized Viewer Detection System And Method," which is incorporated by reference herein in its entirety.

BACKGROUND

[0002] Many times a person is watching some video or viewing some content on an electronic display device that he does not want others to know he is viewing. However, due to the nature of viewing an electronic display device, he may never know when a collateral viewer is intruding on his content. Because he may not be aware that other persons or devices are looking at his electronic display device, his sensitive content may be viewed by others without his permission. Thus, there is a need for improved systems and methods of detecting intruding viewers of electronic displays and automatically editing content accordingly.

SUMMARY

[0003] One exemplary embodiment relates to a system for detecting and responding to an intruding camera. The system includes an electronic media display device having a screen configured to display content, a sensor, and a processing circuit. The processing circuit is configured to obtain information from the sensor, analyze the information to determine a presence of a camera, and edit any displayed content in response to the presence of the camera.

[0004] Another exemplary embodiment relates to a method of detecting and responding to an intruding camera. The method includes displaying content on an electronic media display device having a screen, obtaining information from a sensor, analyzing the information to determine a presence of a camera, and editing any displayed content in response to the presence of the camera.

[0005] Another exemplary embodiment relates to a non-transitory computer-readable medium having instructions stored thereon. The instructions include instructions for interfacing with an electronic media display device having a screen for visual content, instructions for obtaining information from a sensor, instructions for analyzing the information to determine a presence of a camera, and instructions editing any displayed content in response to the presence of the camera. The information from the sensor corresponds to the environment around the electronic media display device.

[0006] Another exemplary embodiment relates to a system for detecting viewers of a display and responding to an intrusion. The system includes an electronic media display device configured to display content, a sensor, and a processing circuit. The processing circuit is configured to obtain information from the sensor, determine a visibility envelope of the electronic media display device, analyze the information from the sensor to determine a presence of an intruder within the visibility envelope, distinguish the intruder from an authorized user, and edit any displayed content.

[0007] Another exemplary embodiment relates to a method for detecting intruding viewers of a display and responding to an intrusion. The method includes displaying content on an electronic media display device, obtaining information from a sensor, determining a visibility envelope of the display device, analyzing the information to determine a presence of an intruder within the visibility envelope, distinguishing the intruder from an authorized user, and editing any displayed content.

[0008] Another exemplary embodiment relates to a method for detecting intruding viewers of a display of a camera-equipped mobile communication device and responding to an intrusion. The method includes obtaining input from a camera of the mobile communication device, determining an area within which a viewer can resolve any visual content, analyzing the input to determine a presence of an intruder within the area, distinguishing the intruder from an authorized user, and responding to the presence of the intruder by editing the visual content.

[0009] Another exemplary embodiment relates to a non-transitory computer-readable medium having instructions stored thereon. The instructions include instructions to interface with an electronic media display device that is configured to display content, instructions to obtain information from a sensor, instructions for determining an area within which a viewer can resolve any visual content, instructions to analyze the information to determine a presence of an intruder within the area, and instructions for editing the visual content if the presence of an intruder is detected.

[0010] The invention is capable of other embodiments and of being carried out in various ways. Alternative exemplary embodiments relate to other features and combinations of features as may be generally recited in the claims.

[0011] The foregoing is a summary and thus by necessity contains simplifications, generalizations and omissions of detail. Consequently, those skilled in the art will appreciate that the summary is illustrative only and is not intended to be in any way limiting. Other aspects, inventive features, and advantages of the devices and/or processes described herein, as defined solely by the claims, will become apparent in the detailed description set forth herein and taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE FIGURES

[0012] The invention will become more fully understood from the following detailed description taken in conjunction with the accompanying drawings wherein like reference numerals refer to like elements, in which:

[0013] FIG. **1** is a schematic diagram of an electronic media display device and a visibility envelope, shown according to an exemplary embodiment.

[0014] FIG. **2** is a block diagram of an electronic media display device, a sensor, and a processing circuit, shown according to an exemplary embodiment.

[0015] FIG. **3** is a detailed block diagram of a processing circuit, shown according to an exemplary embodiment.

[0016] FIG. **4** is a schematic diagram of an electronic media display device, a sensor, and a processing circuit, shown according to an exemplary embodiment.

[0017] FIG. **5** is a schematic diagram of a visibility envelope, shown according to an exemplary embodiment.

[0018] FIG. **6** is a schematic diagram of a visibility envelope, shown according to an exemplary embodiment.

[0019] FIG. **7** is a schematic diagram of a visibility envelope, shown according to an alternative embodiment.

[0020] FIG. **8** is a schematic diagram of an electronic media display device, a sensor, a processing circuit, and a visibility envelope, shown according to an alternative embodiment.